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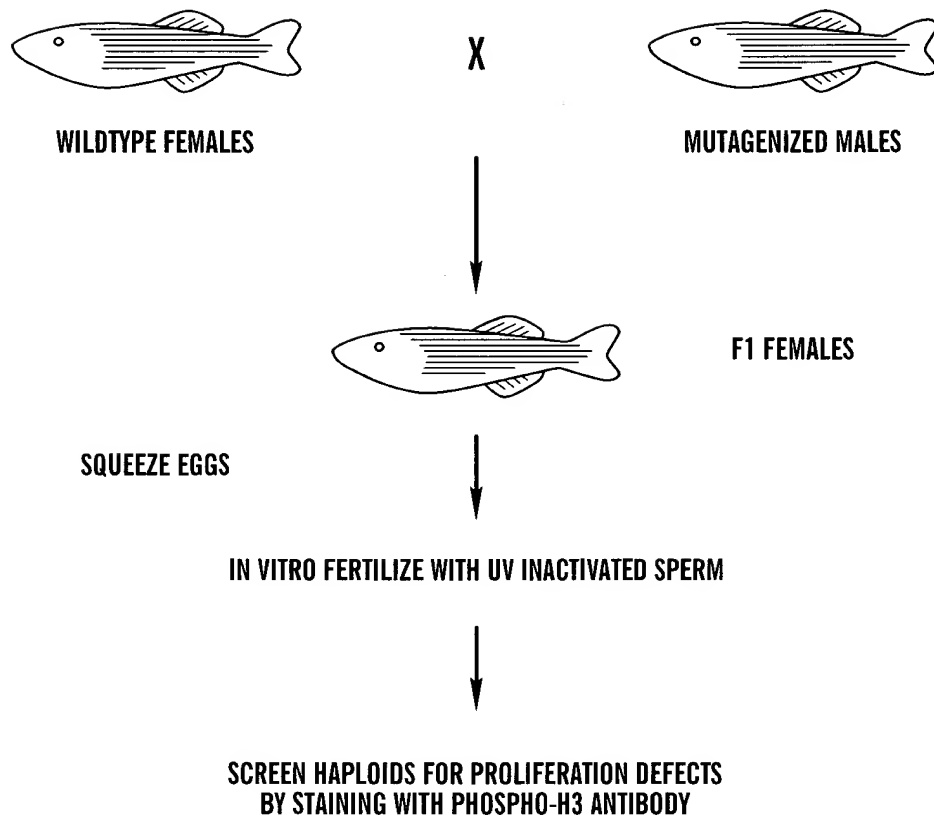
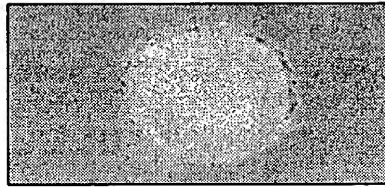


FIG. 1

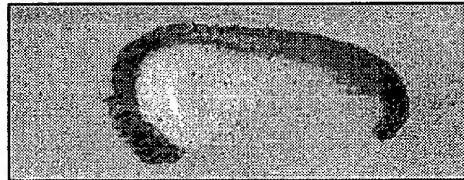
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12 HPF

FIG. 2A



16 HPF

FIG. 2B



24 HPF

FIG. 2C

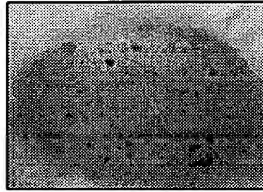


48 HPF

FIG. 2D

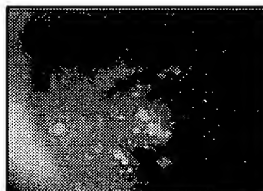
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H3 ANTIBODY 24 HPF

FIG. 3A

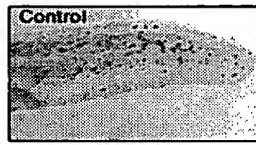


ACRIDINE ORANGE 24 HPF

FIG. 3B

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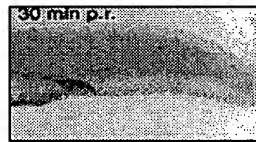
CONTROL

FIG. 4A



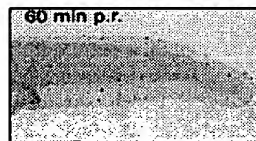
15 MIN POST-RADIATION

FIG. 4B



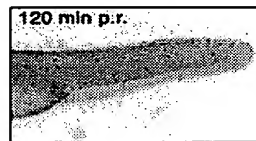
30 MIN POST-RADIATION

FIG. 4C



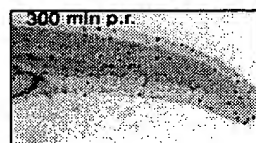
60 MIN POST-RADIATION

FIG. 4D



120 MIN POST-RADIATION

FIG. 4E



300 MIN POST-RADIATION

FIG. 4F

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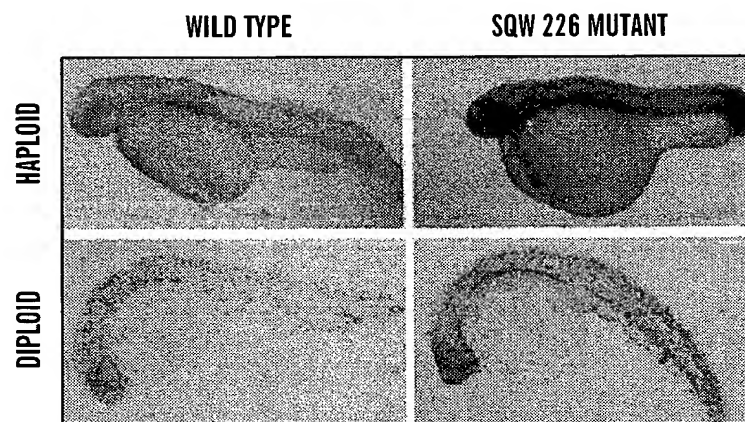


FIG. 5A

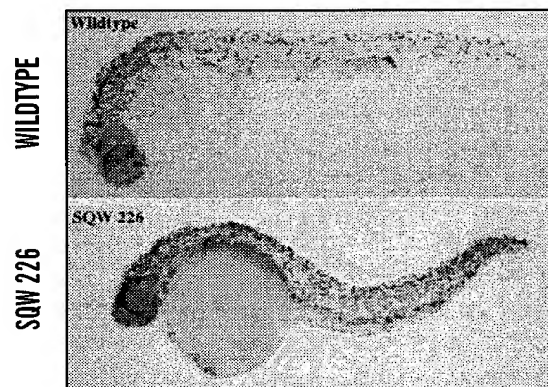


FIG. 5B

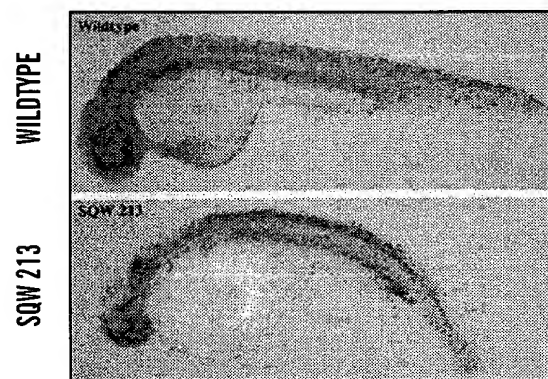


FIG. 5C

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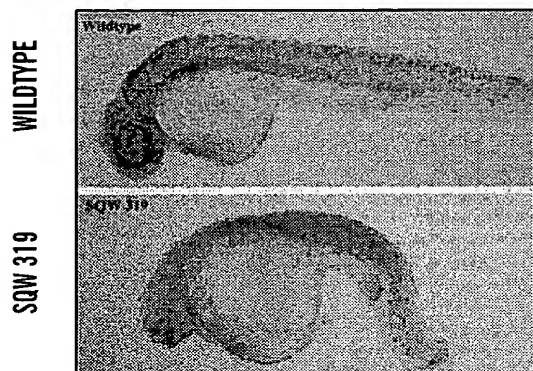


FIG. 5D

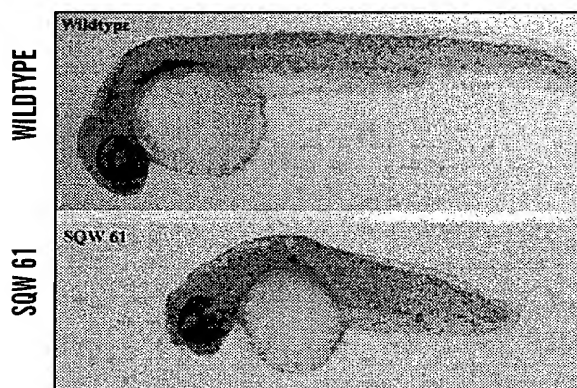


FIG. 5E

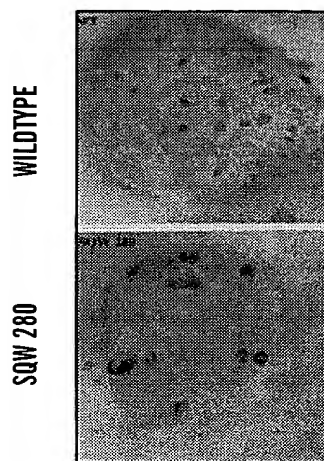


FIG. 5F

0953007 05110

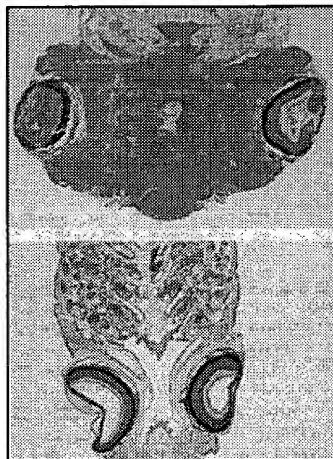


FIG. 6A

ZEBRAFISH

HUMAN

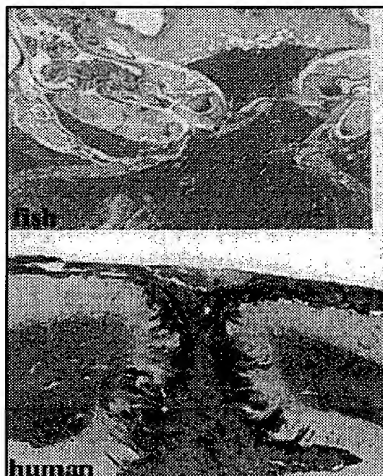


FIG. 6B

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ZEBRAFISH

HUMAN

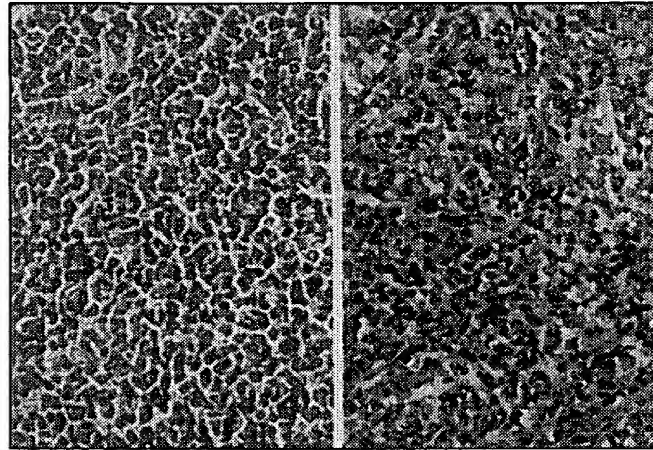


FIG. 6C

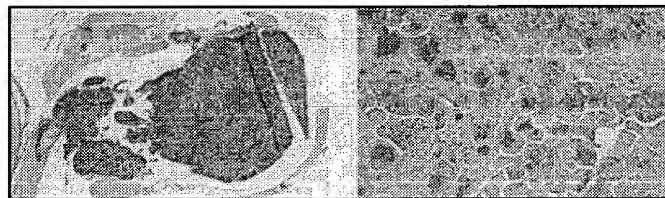
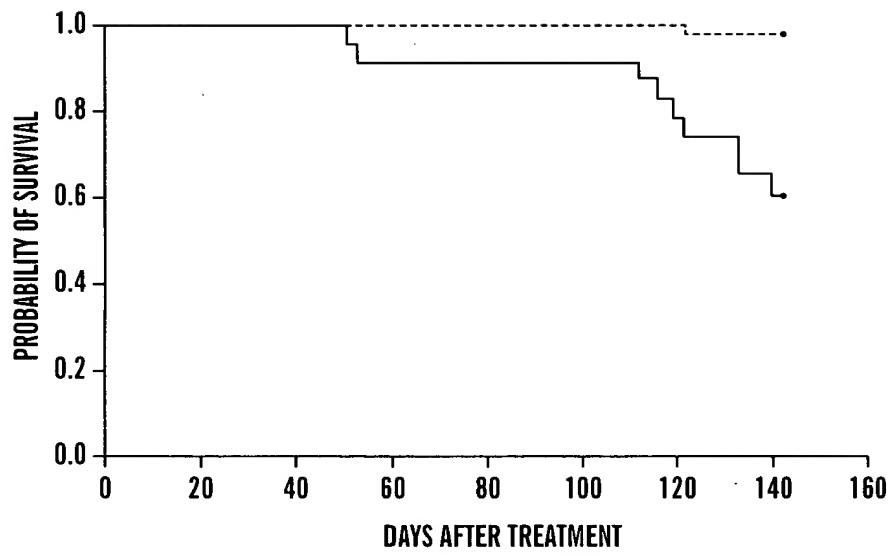


FIG. 6D

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**FIG. 6E**

SINGLE-EMBRYO FACS ANALYSIS

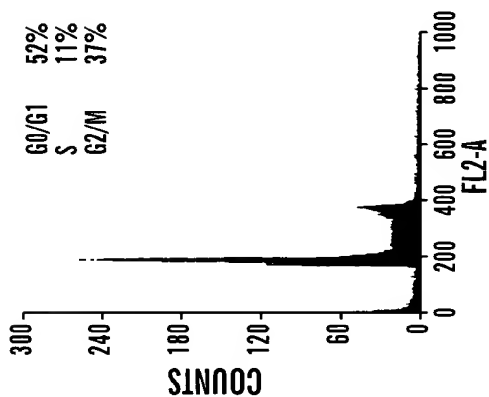


FIG. 7A

FACS ANALYSIS OF EMBRYOS AFTER IONIZING RADIATION

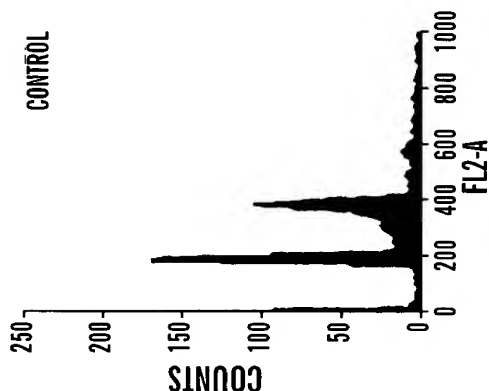


FIG. 7B

FACS ANALYSIS OF EMBRYOS AFTER IONIZING RADIATION

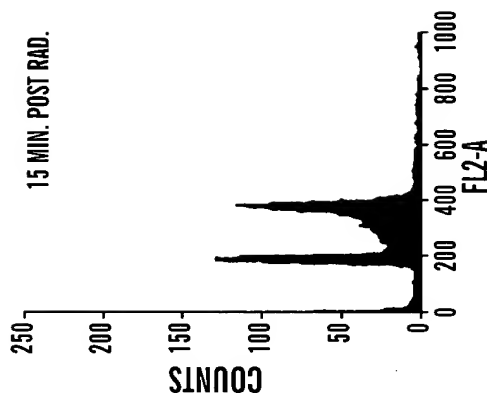


FIG. 7C

FACS ANALYSIS OF EMBRYOS AFTER IONIZING RADIATION

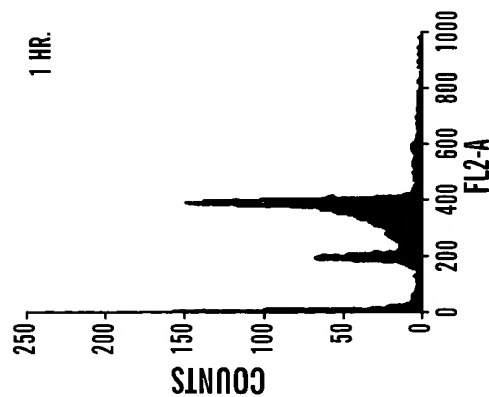


FIG. 7D

FACS ANALYSIS OF EMBRYOS AFTER IONIZING RADIATION

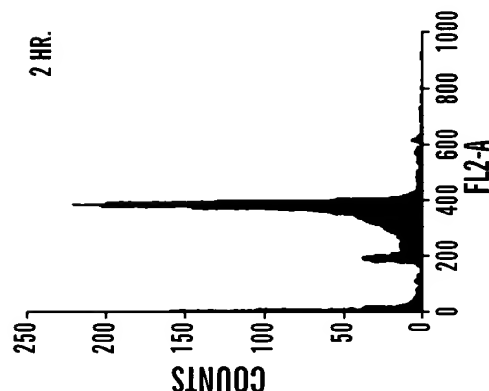


FIG. 7E

FACS ANALYSIS OF EMBRYOS AFTER IONIZING RADIATION

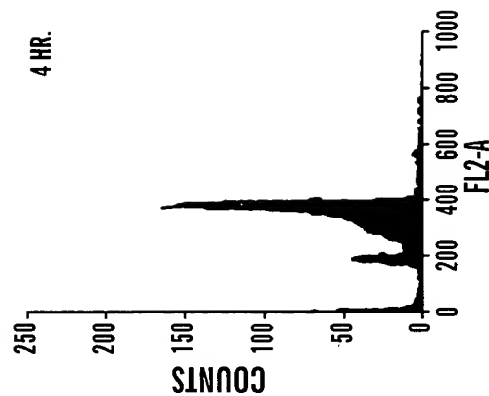
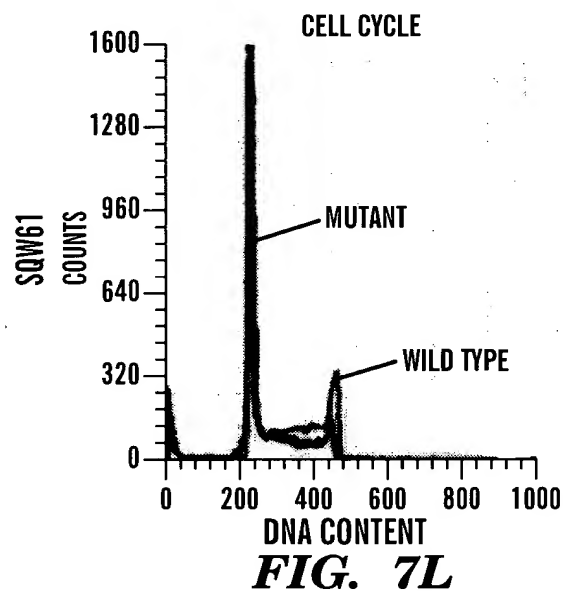
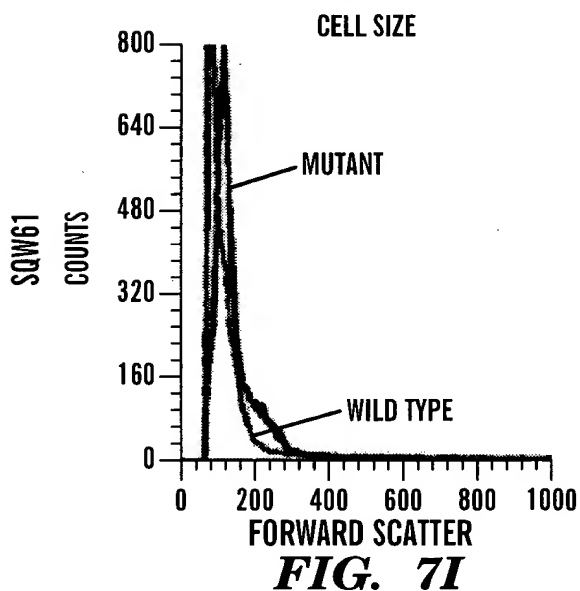
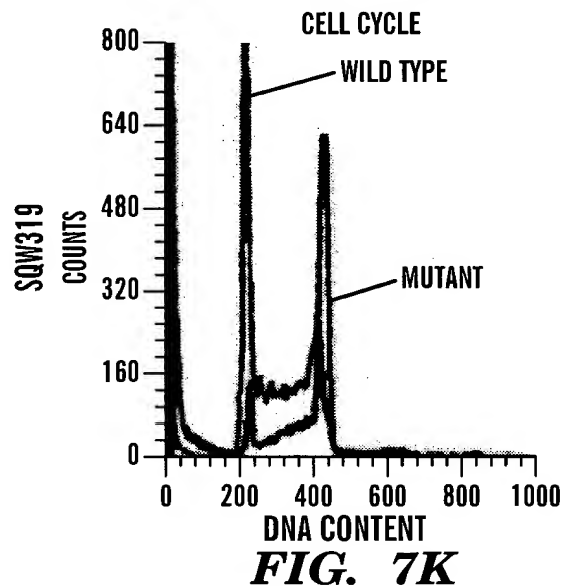
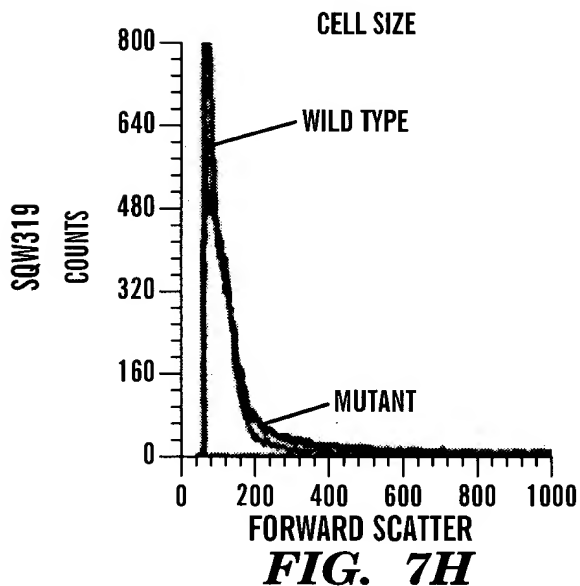
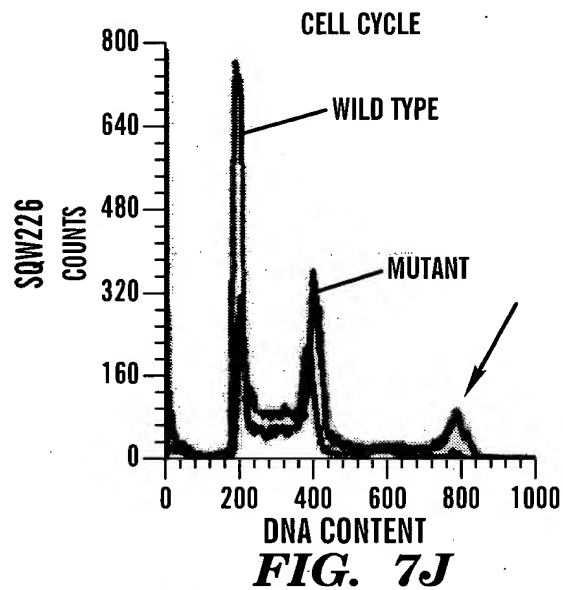
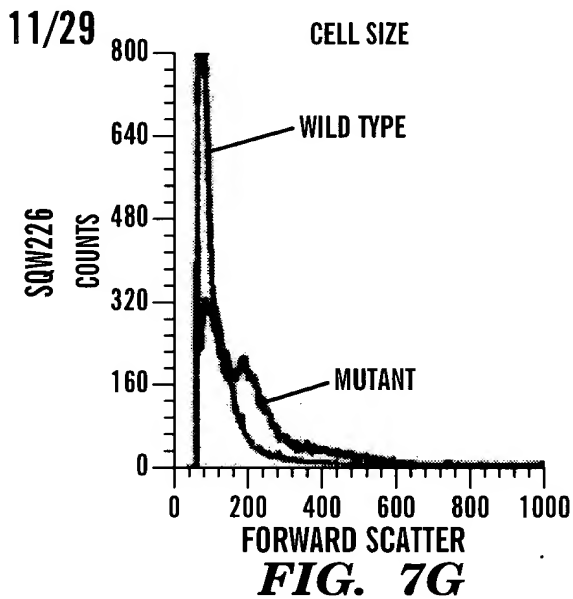


FIG. 7F

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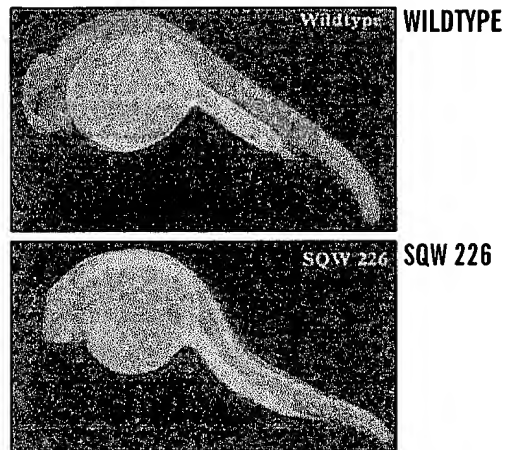


FIG. 8A

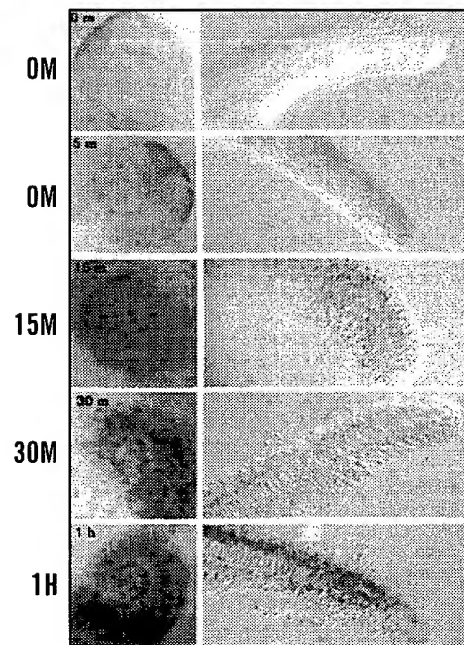


FIG. 8B

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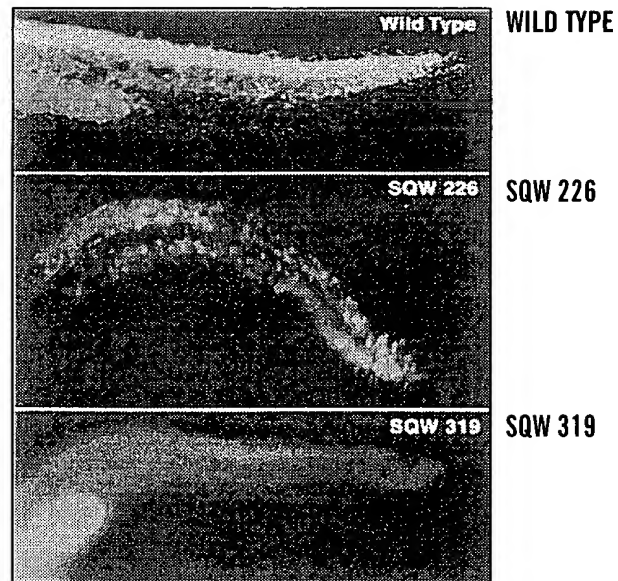
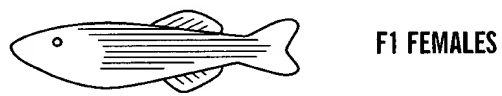


FIG. 8C

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SQUEEZE

HAPLOID EMBRYOS

IRRADIATE AT 24 HOURS

FIX AT ~45 MINUTES POST RADIATION

LOOK FOR EMBRYOS THAT DO NOT ARREST
(I.E. HAVE MITOTIC CELLS H3-STAINING)

FIG. 9

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WT
NON-IRRADIATED

WT
IRRADIATED

SQW 226
IRRADIATED

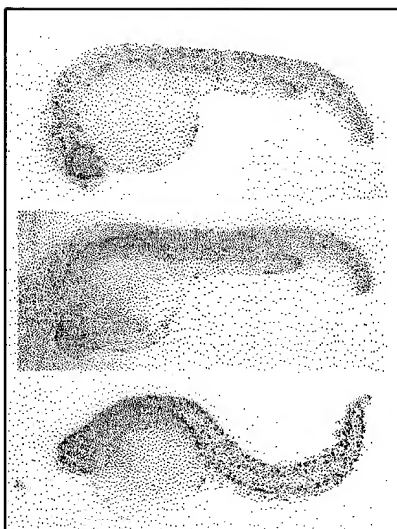


FIG. 10

Zfish MPPK--KRSSGT PQQKELK GSKLSRSPDSGN-----AVLSPERHKDKOPEFVFLSEELQSTNSICDHWRIWER 68
 Frog MPPKSPRK---QQIRSQGEPRSPDRP-----DFQDPDENFLCENLKISDNVRGKAWNTYEK 53
 Human MPPKT PRKTAATAAAAAEPPAPPPPPPEEDEPEQSGPEDLPLVRLFEETEEDPTALCQKLKIPDHWRRERAWLTWEK 80

Zfish EIRSMOK-TNMPYSNRQQAACLFIA GMELEGINLFTQFLKAVGLSVKQFISLVRKMDVNVDTISPKVNSAVTRLENKY 147
 Frog MFPSGYMMRE-TAKKESLGLCLYIASVDCEEMTFTTELLKILRLSVNRCFRLREMDINMDVLSNKVDNAISKKKKY 132
 Human VSSVDGVLGGYIQKKKELKICIFIAVDLDDEMSFTTELOKNIEISVHKFFNLKEIDT-----STKVDNAMSPLKKY 155

Zfish DVTLAIYQRFYKTCGKIFAEPDNA-----KRKELWESSATMFLAKCTFLOMEDLVISFQLLCVLEFFAKRLSPSL 220
 Frog ENMCLLFQKFQRTFELFEFEQHNT---RAAVDTAPILKGTWITFLLARCKILOMDELVISSQLLGVLDYFIKLSPPSI 209
 Human DVLFAIFSKLERTICELLYLTQPS-SISTEINSALVLKVSITFLLAKCEVLQMEDLVISFQMLGVLDYFIKLSPPML 234

Zfish LQSPYNSVSVSSSTLSPPTTSPRNGGSKPR--PAEADMQLLETCKEGDCSVDEVKNVYQSTFCALDLSVGLLGLOGLP 298
 Frog LKEPKYKALNGLPVNTPPSSRRSQRNRNTRVSPQSETDSKVLEFLCSQNYCPMDEVKNVYSTSFVDLASAGISSNEGIP 289
 Human LKEPKYTAV--IPINGSPRTPRGQNSARIAKQLENDTRIIEVLCKEHCNIDEVKNVYFKNFIPEMNSLCLVTNGLP 312

Zfish PMEALSKOYEELTHYSKDFDARLFLSDDETSPNKEIVSKVEVTPRKNLFAEDIAIPVPTAIPAAKTSIQLRGDLTSG 378
 Frog KVESISROYEELTHYSKDFDARLFLSDDETSPNKEIVSKVEVTPRKNLFAEDIAIPVPTAIPAAKTSIQLRGDLTSG 367
 Human EVENLSKRYEELTHYSKDFDARLFLSDDETSPNKEIVSKVEVTPRKNLFAEDIAIPVPTAIPAAKTSIQLRGDLTSG 392

Zfish SDQPSNLLVYKNTVDPSGETIKKVEELGEVFIQRFQAQVGGCEGLGRKRFYLAQLYYKVMESMLYSEKPLSVON 458
 Frog NQKPPDTLDSYFSNCTVAKTKITDRIEHFCHVFKEKFASSVGAAGAEICYOBYKLGVCCLYYPVMEAILNTEERLSVHN 447
 Human SDQPSNLLVYKNTVDPSGETIKKVEELGEVFIQRFQAQVGGCEGLGRKRFYLAQLYYKVMESMLYSEKPLSVON 472

Zfish FSKLLNNAAFHTSLLACALEVVIATYVGSLLKNGGFRSSGASDSVESDLCPFWILSVFQLPAFDYKVVIESFIKAEPTL 538
 Frog FSKLLNNDIFHICLLACAVEVVMASARNA-----SQAYC-SSGTNLSFPWILRAFEIKAFDFYKVVIESCFIKAEPSL 518
 Human FSKLLNNDIFHMSLLACALEVVIATYVSRST-----SQN--LDSGTDLSFPWILNVLNLKAFDFYKVVIESFIKAEGLN 542

Zfish KHDVVKHLEQCEHVIMESLAWRADSPFLDLKCSRE-EGPGEQAEPPATLNQPLHHNHTAADLYLSVPVPCRQ----- 610
 Frog TSNMVKYLERCEHOIMECLAWQSDSPLFDLIKQTREREGLDVHPELVSNLQPPVQHNTAADLYLSPSRSSHQHPVTSVP 598
 Human TRETNKHLERCEHRIMESLAWLSDSPLFDLIKQSKDREGPTDHLISACPLNLPLQNHTAADLYLSVPVSPKKGSTTRV 622

Zfish --P-PVMEAEPPTP--GTRAPRNSLSLFYKKLYRMAYLRUKMFSMLLTSHPMEPIIWTLLQHTLQNEYELMRDRHLD 685
 Frog TSSVTNGQVSSSQPVQ---QKSTLSLFYKKMYLLAYKRLSSLSLSDHPELEQVIWTLLQHTLQNEYELMRDRHLD 674
 Human NST-ANAETQATSAFQTKPLKSTLSLFYKKMYRLAYLRNLTLCERLLSEHPELEHTIWTLLQHTLQNEYELMRDRHLD 701

Zfish QLIMSAMYATCKVKMDLRFKTIIVTAYKELPNTNQETFKRVLIIRGQYDSIIVFYNLVFMQKLKTNILQYSSPPPEPLSP 765
 Frog QIMMCSMYGICKAKKIDLRFKTIIVTAYKGLTNTNQETFKRVLIIRGQYDSIIVFYNLVFMQKLKSHILQYCSARHPTLSP 754
 Human QIMMCSMYGICKVKMDLRFKTIIVTAYKDLPHAVQETFKRVLIEEYDSIIVFYNSVFMQKLKTNILQYASTPPPEPLSP 781

Zfish IPHIPSPYK--NSPLRVPCSNVYVSPLKSSRV-----SPLVITPRSRILISIGESFGSADKFOKINQVSSSDWSLK 837
 Frog IPHIPSPYKFGNSP-KVPC--NIYVSPLKTPYKTADGLSPSKMTPKTSFLISLGETFRSPDRFOKINQLNSCERPIK 831
 Human IPHIPSPYKFPSSPLRIPCGN-IYISPLKSPYKISEGLPTPTKMTPRSRILVSIGESFGTSEKFOKINQVCSNDRVLK 860

Zfish RSLDGGSAKPKLKLRFDMGQDEADGSKS-SGESALIQKLAENSTSTRMQCKLKEESDKDHPPEP. SEQ ID NO: 1 904
 Frog RSADTGTTPKPKLKLRFDSGQDEADGSKHIGESKFOQKLAENSTSTRMQCKLKEESLESSQOEK SEQ ID NO: 2 899
 Human RSAEGSNPPKPKLKLRFDEGSDADGSKHLPGESKFOQKLAENSTSTRMQCKLMNDSMDTSNKEK SEQ ID NO: 3 928

FIG. 11

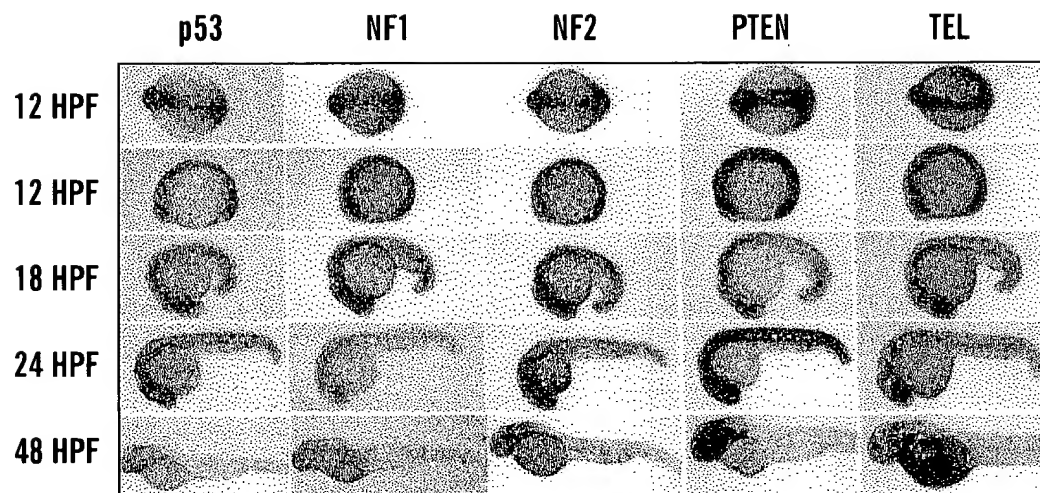


FIG. 12

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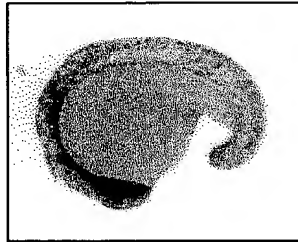


FIG. 13A

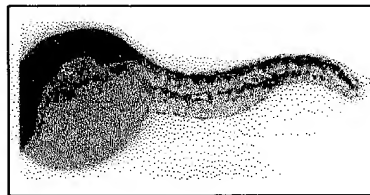


FIG. 13B

SQW 213

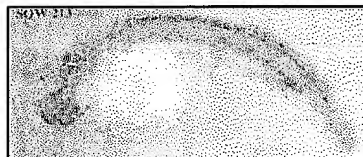


FIG. 13C

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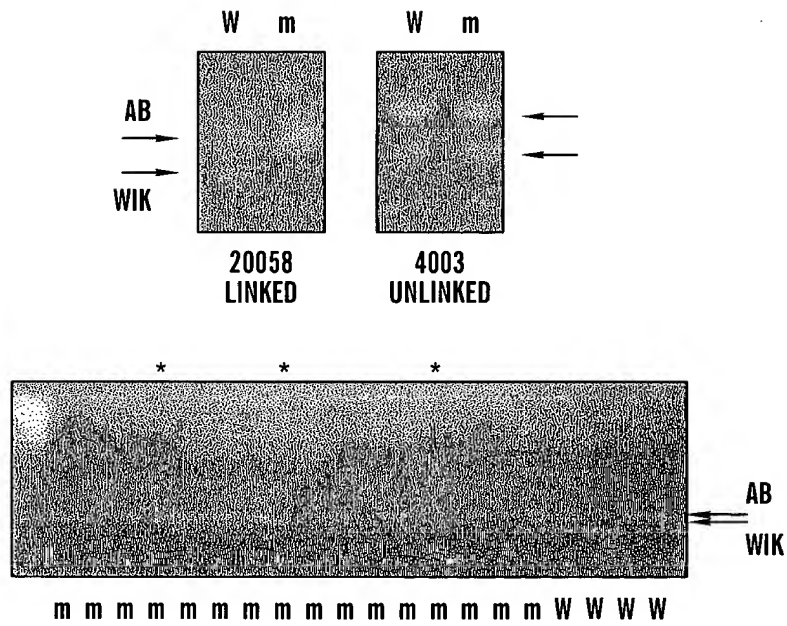


FIG. 14

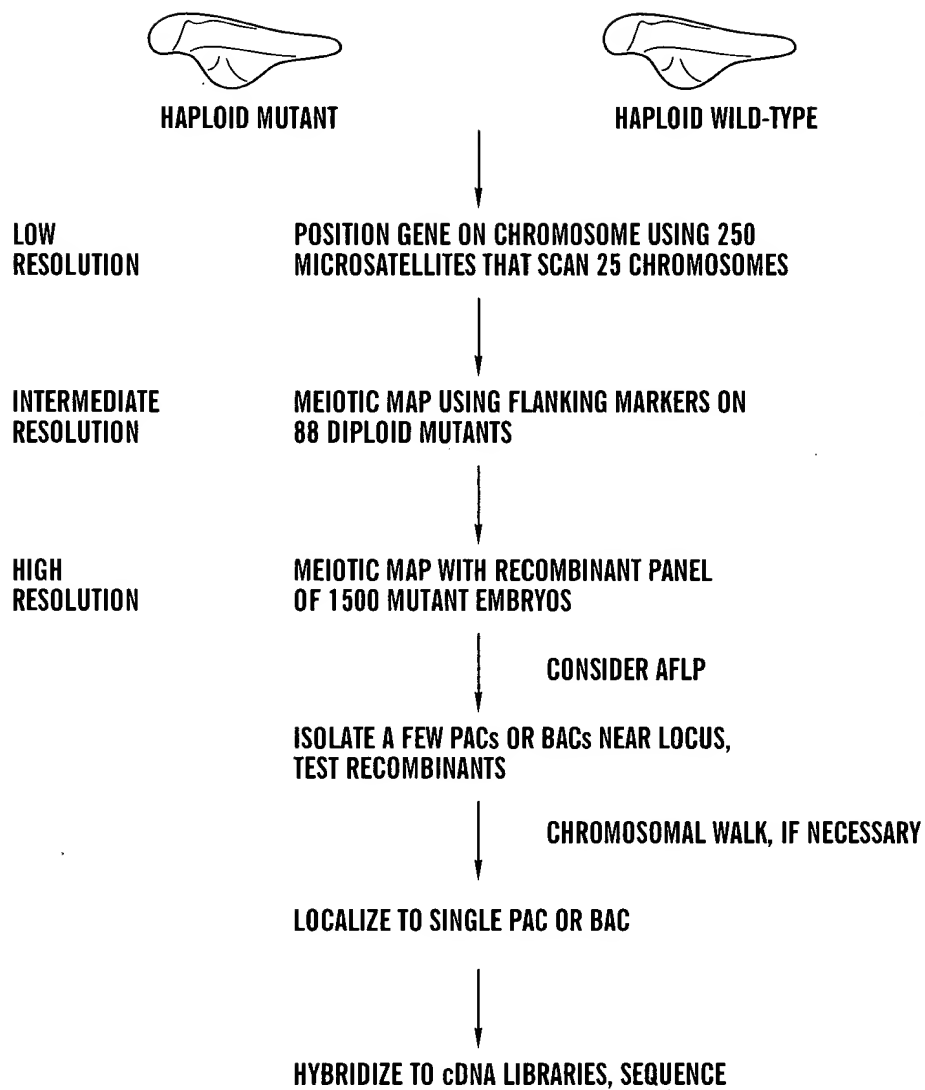


FIG. 15

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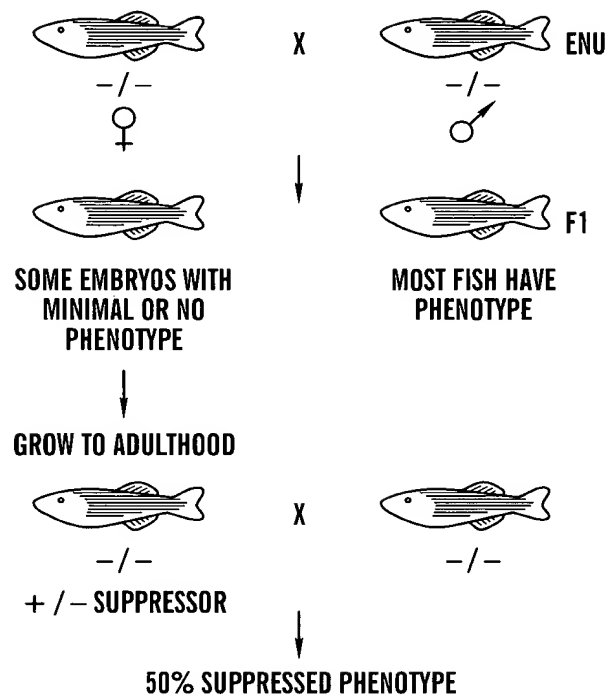


FIG. 16A

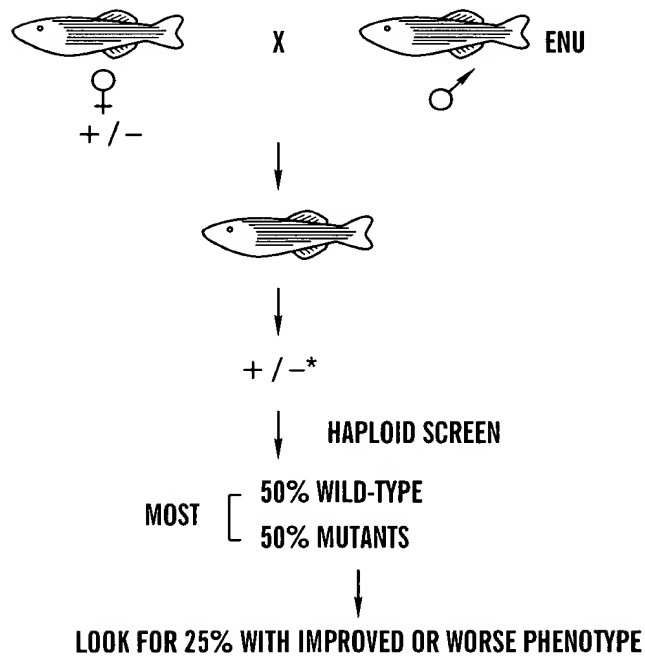


FIG. 16B

09758007-061101

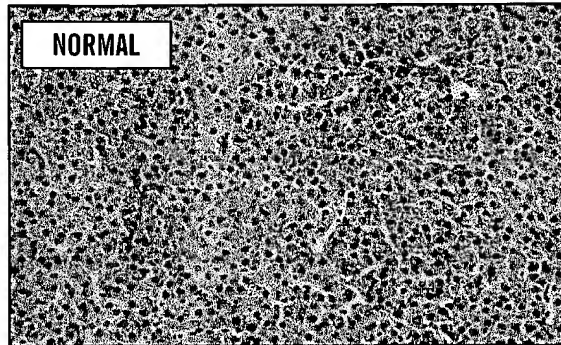


FIG. 17A

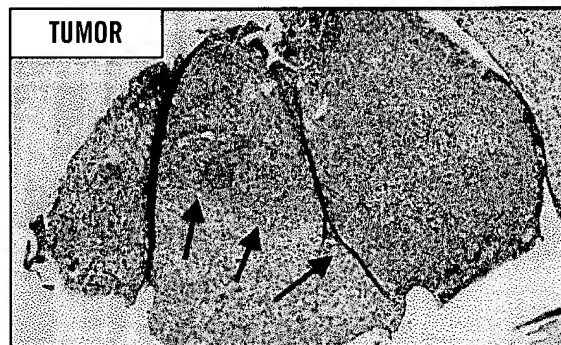


FIG. 17B

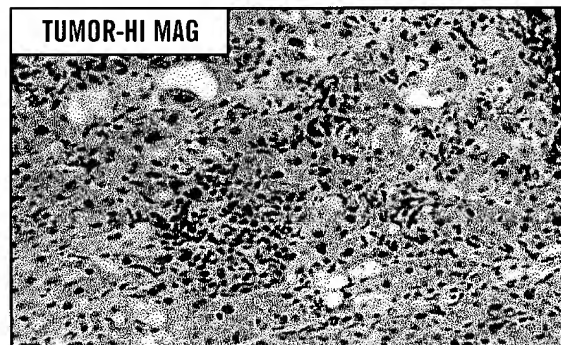


FIG. 17C

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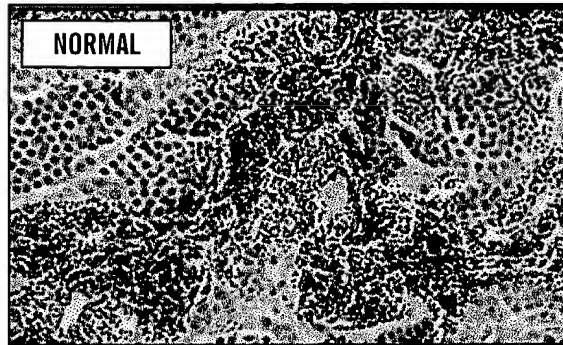


FIG. 18A

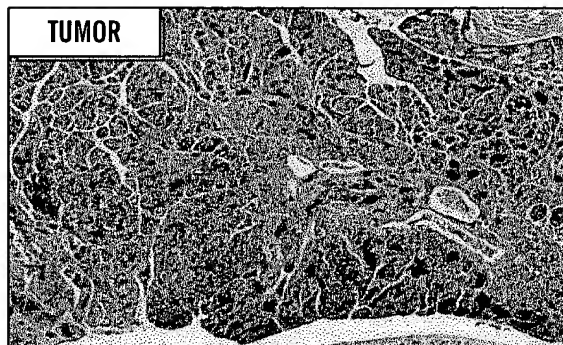


FIG. 18B

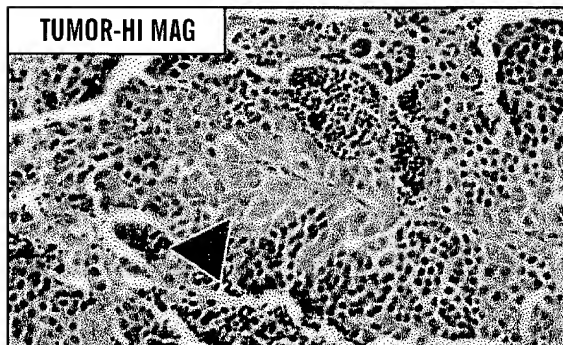


FIG. 18C

09758007, 051101

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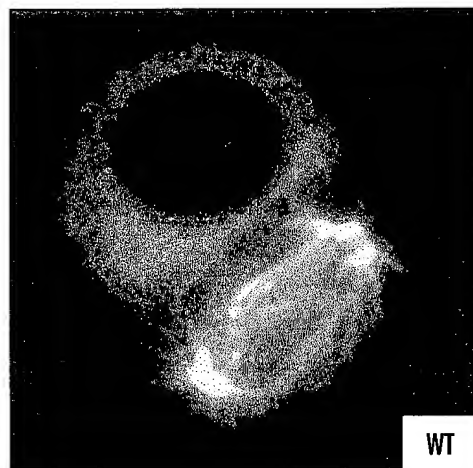


FIG. 19A



FIG. 19B

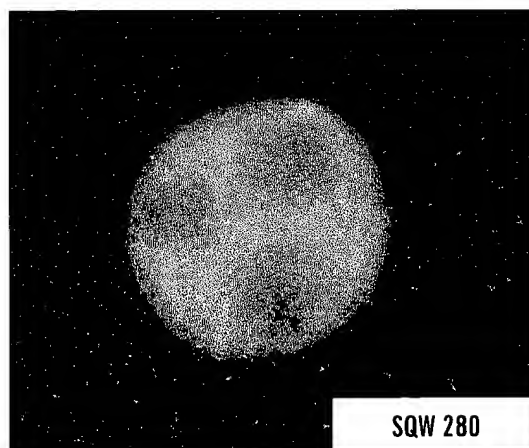


FIG. 19C

09758007.061101



FIG. 19D

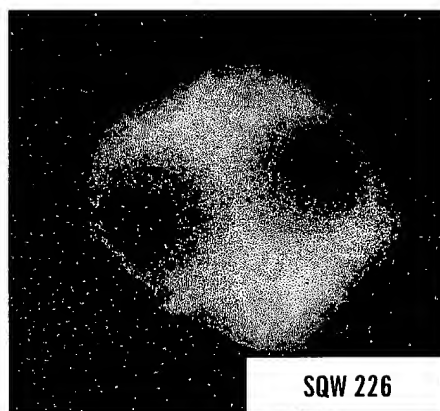


FIG. 19E

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FIG. 20A

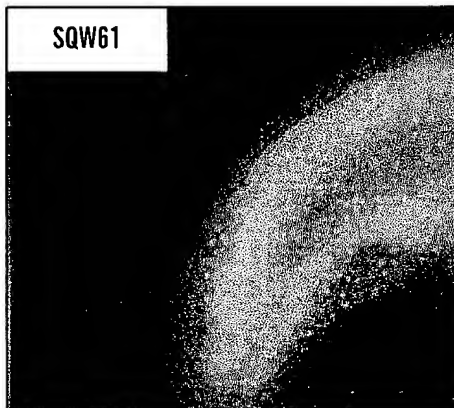


FIG. 20B



FIG. 20C

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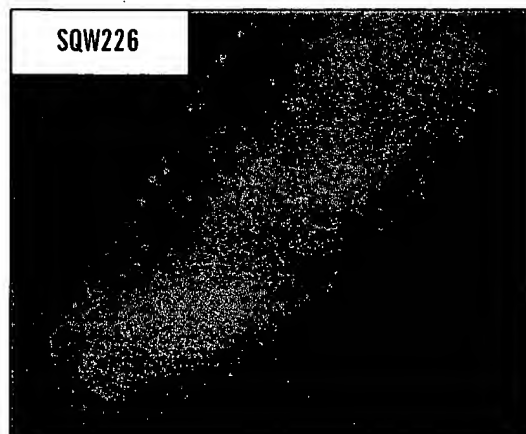


FIG. 20D

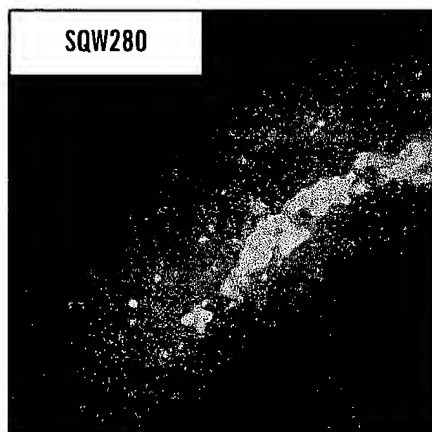


FIG. 20E

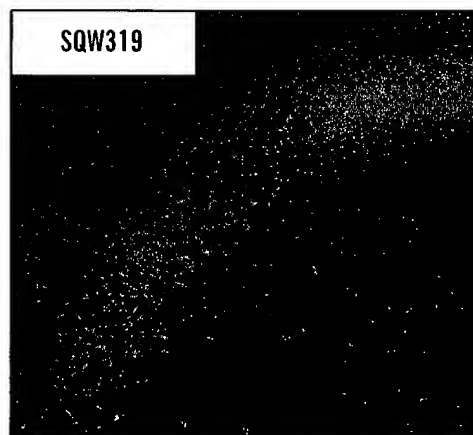


FIG. 20F

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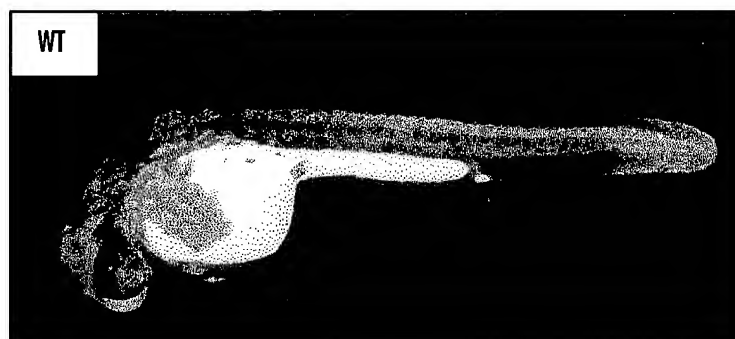


FIG. 21A

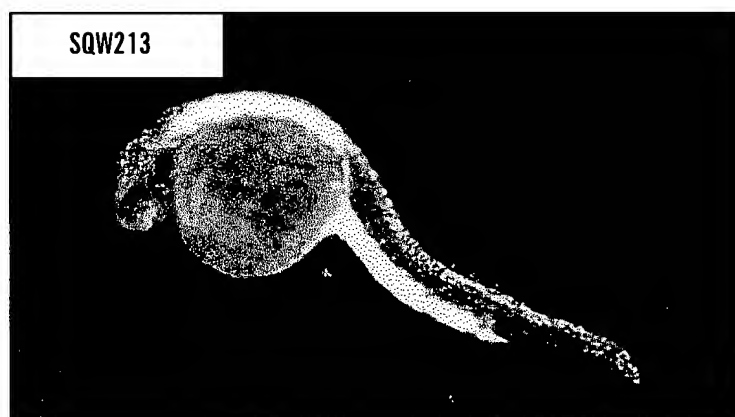


FIG. 21B

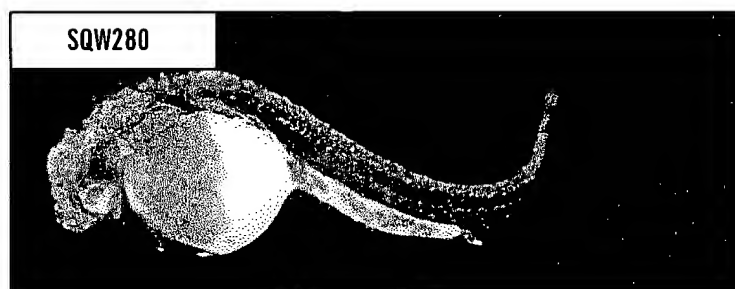


FIG. 21C

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SQW61

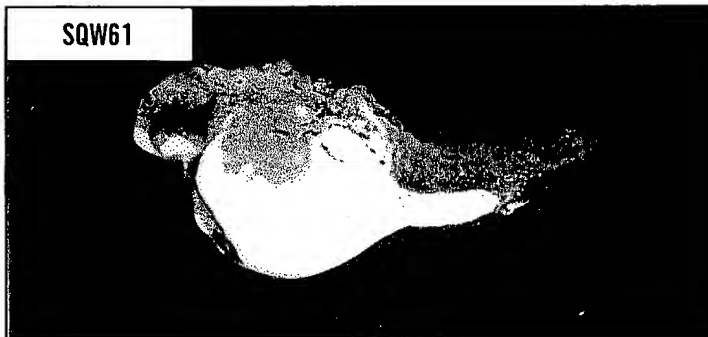


FIG. 21D

SQW226

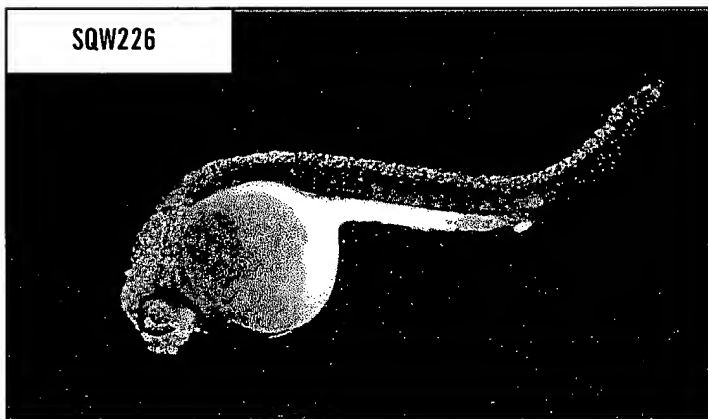


FIG. 21E

SQW319

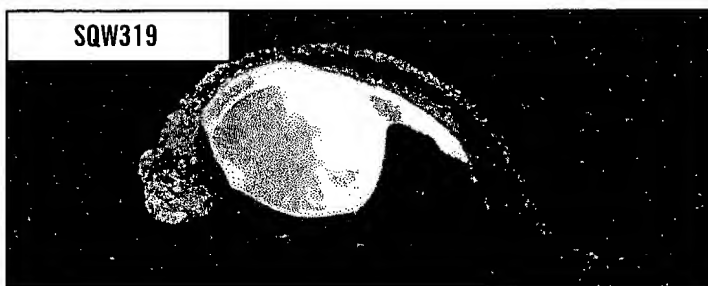


FIG. 21F

09758007.061101